

FIGURE 1A

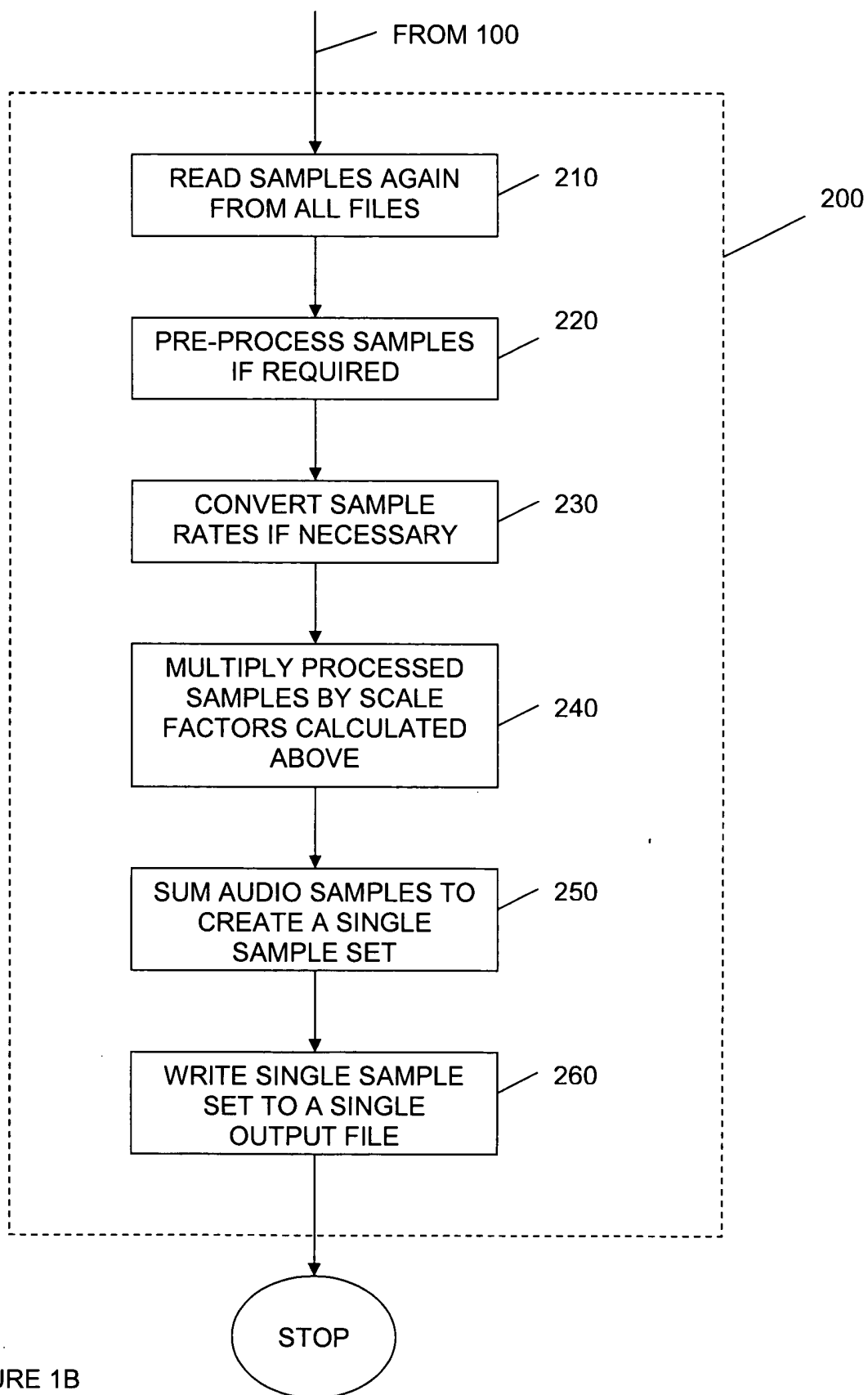
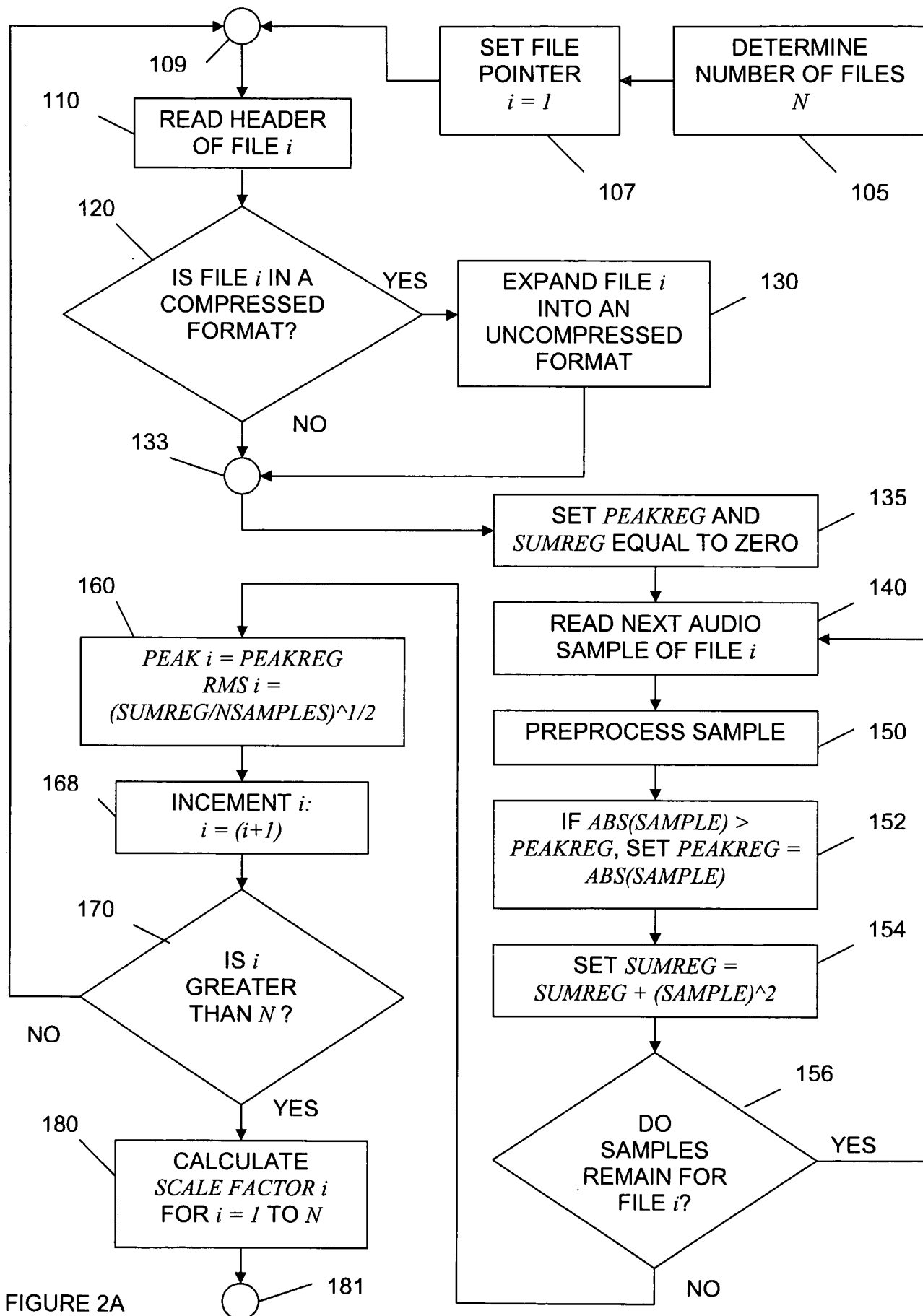
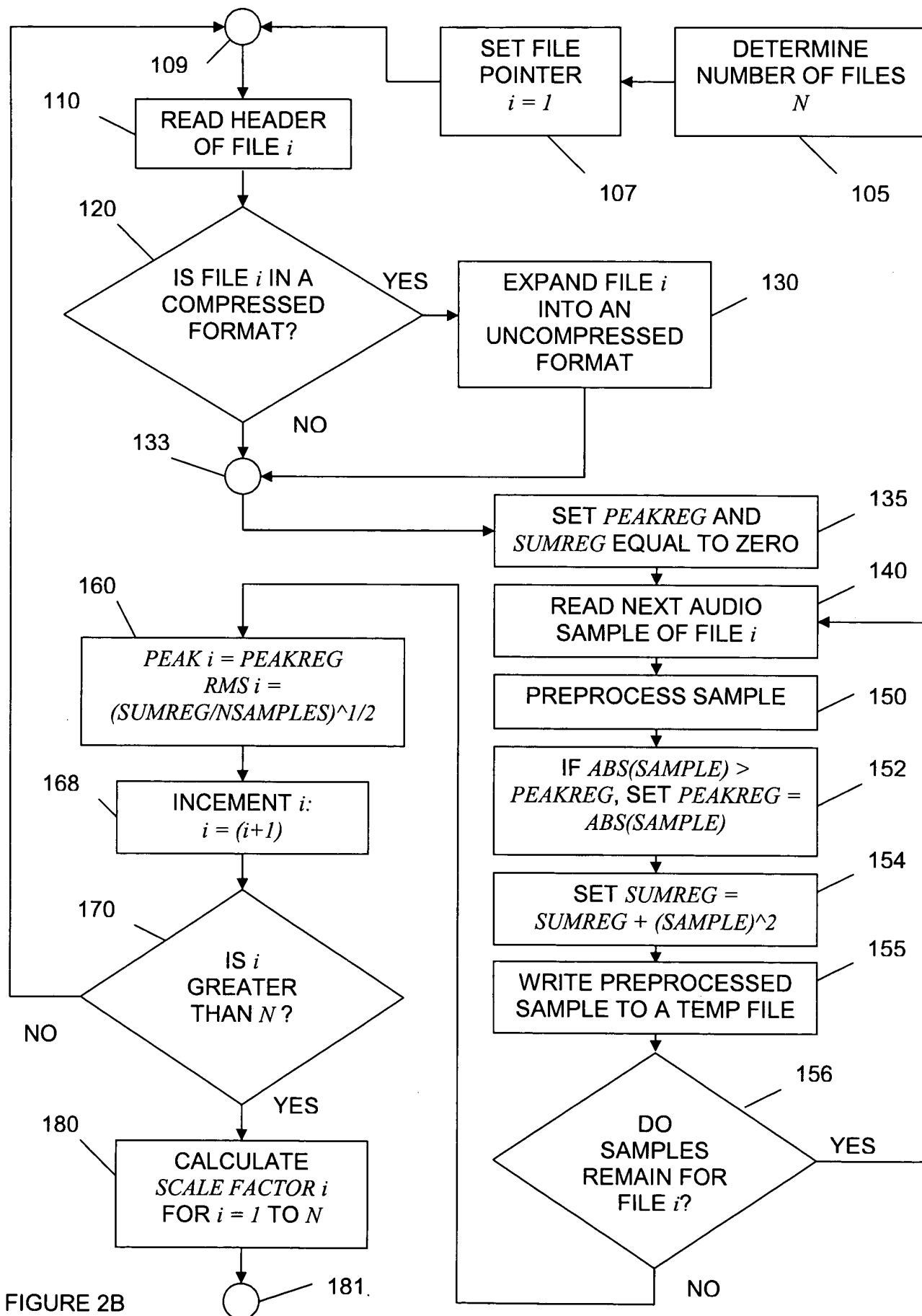


FIGURE 1B





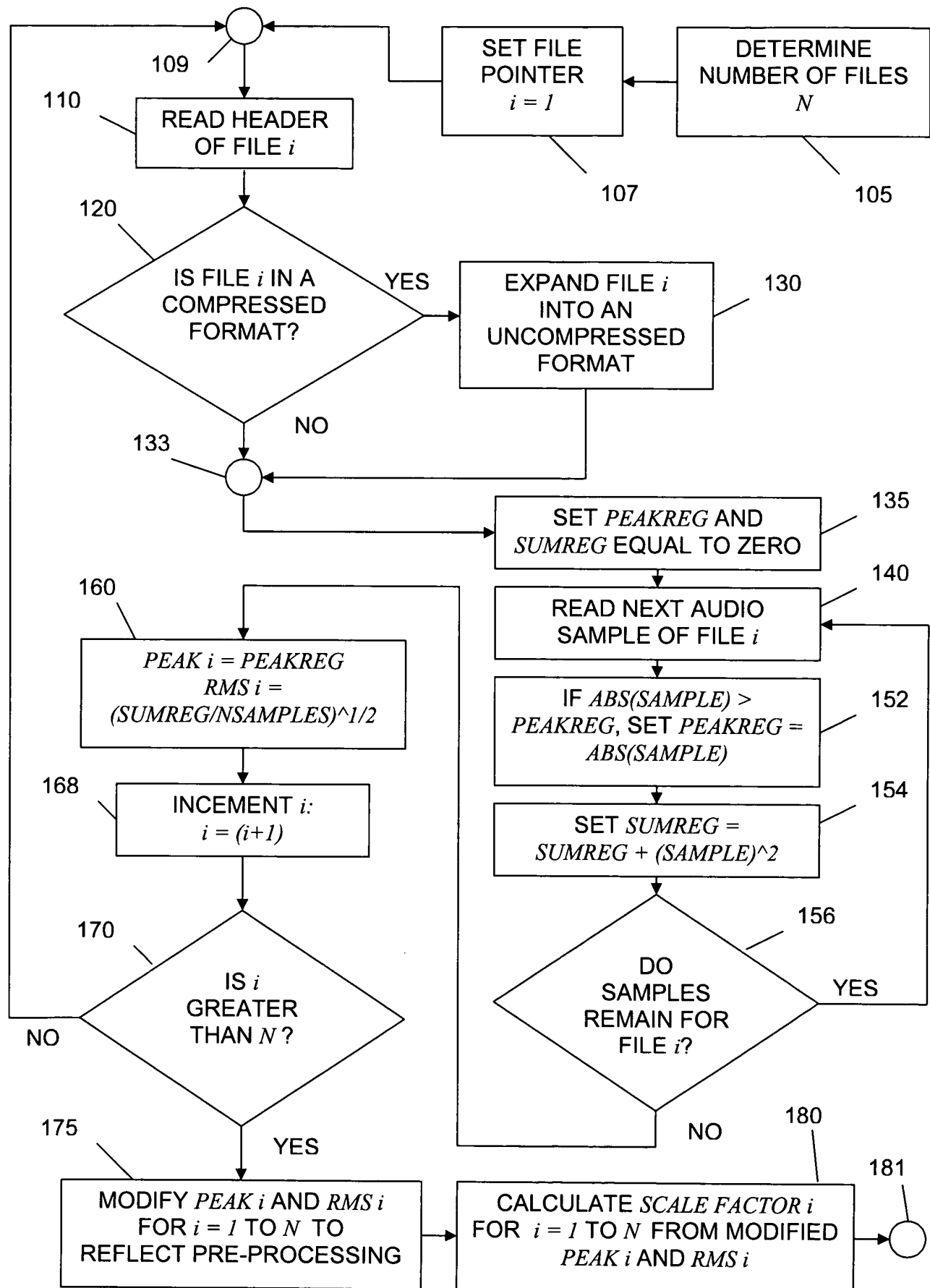


FIGURE 2C

CALCULATE SCALE FACTORS FOR TWO AUDIO FILES

$$\text{FIRST SCALE FACTOR} = K / \{ \text{PEAK1} + \text{PEAK2} * (\beta * \text{RMS1}) / ((1 - \beta) * \text{RMS2}) \}$$

$$\text{SECOND SCALE FACTOR} = K / \{ \text{PEAK2} + \text{PEAK1} * (\beta * \text{RMS2}) / ((1 - \beta) * \text{RMS1}) \}$$

FIGURE 3A (scale factor calculation for two files)

CALCULATE SCALE FACTORS FOR N AUDIO FILES

$$\begin{bmatrix} P1 & P2 & P3 & \dots & P_i & \dots & P_N \\ \beta_1 \cdot R1 & -\beta_2 \cdot R2 & 0 & 0 & 0 & 0 & 0 \\ \beta_1 \cdot R1 & 0 & -\beta_3 \cdot R3 & 0 & 0 & 0 & 0 \\ \beta_1 \cdot R1 & 0 & 0 & \dots & 0 & 0 & 0 \\ \beta_1 \cdot R1 & 0 & 0 & 0 & -\beta_i \cdot R_i & 0 & 0 \\ \beta_1 \cdot R1 & 0 & 0 & 0 & 0 & \dots & 0 \\ \beta_1 \cdot R1 & 0 & 0 & 0 & 0 & 0 & -\beta_N \cdot R_N \end{bmatrix} X \begin{bmatrix} S1 \\ S2 \\ S3 \\ \dots \\ S_i \\ \dots \\ S_N \end{bmatrix} = \begin{bmatrix} K \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{bmatrix}$$

FIGURE 3B (scale factor calculation for N files)

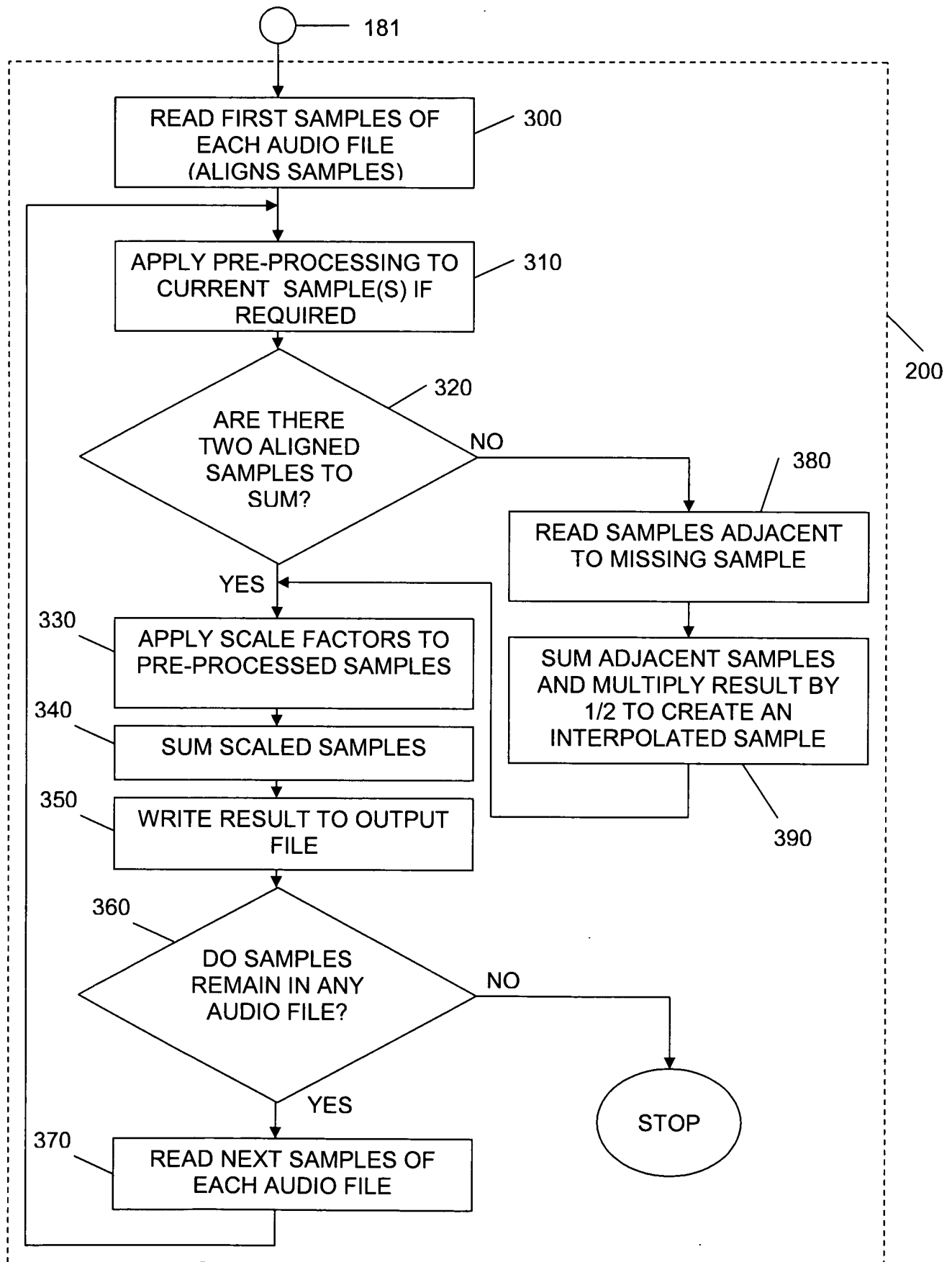


FIGURE 4